



MAGTF Communications

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Selected MAGTF Implications

- **Expeditionary Headquarters**
- Enhanced intelligence systems
 - Persistent surveillance over an extended but densely complex operational environment
 - Advanced ISR sensors linked to users at all echelons
 - **Integrated C2 & ISR capabilities down to the squad level**
- **MAGTF communications infrastructure must be resilient and protected from cyber attack**
- Improved fires and maneuver capabilities
 - Coordinated, precise fires from ground, air, and naval surface fire support platforms
 - Must rapidly and precisely engage fleeting targets
- Unmanned aircraft systems (UASs)
 - provide force-multiplying capabilities, fostering transformational advancements in battlespace command and situational awareness
- Develop Aviation C2 systems - fuse C2, sensor, weapons data, and information to provide a true COP





Principle Force Implications

- Fully enable decentralized MAGTF operations
 - Organize and train for disaggregated MAGTF operations
 - **C2 & ISR to the lowest tactical level**
 - Discriminate and responsive fires
- Enhance tactical mobility all domains
 - Protected ground maneuver
 - **Significantly lighten the combat load**
- Increase effectiveness in the Information Environment
 - **Information Operations - 7th warfighting function**
 - Roles functions and responsibilities – institutional support
 - Cultural terrain





Networking the Future MAGTF

Network focused on decision

- Integrates essential technologies into a single system focused on the ground warfighter

Migrate to a fully net-enabled, distributed and democratized environment where capabilities and information are available to any node at any time

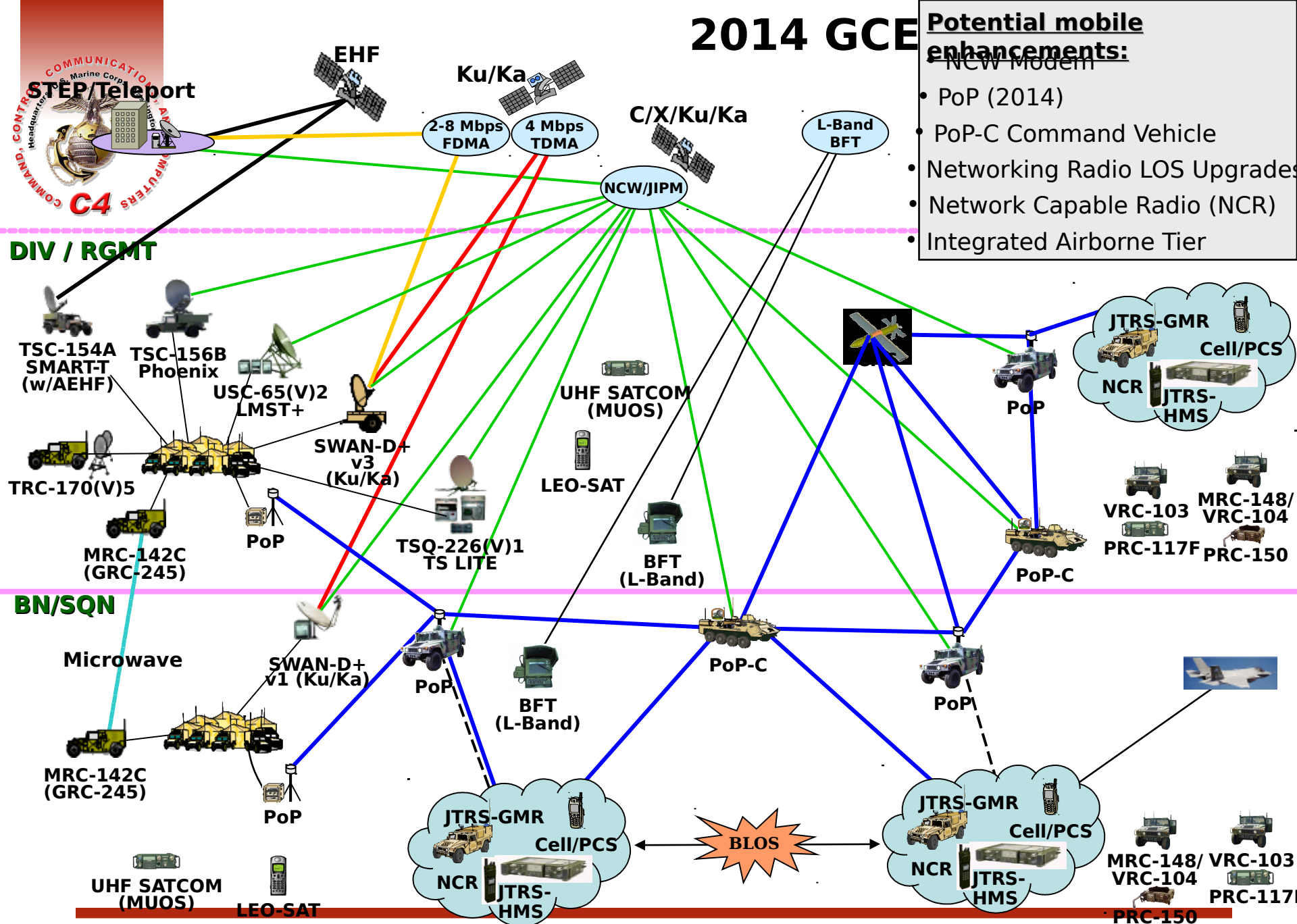
- Support machine-to-machine communication
- Each node collaborates as customer, provider, or both
- Scalable and upgradeable
- Open architecture, IP based, and using standard protocols



2014 GCE

Potential mobile enhancements:

- NCW Modern
- PoP (2014)
- PoP-C Command Vehicle
- Networking Radio LOS Upgrades
- Network Capable Radio (NCR)
- Integrated Airborne Tier

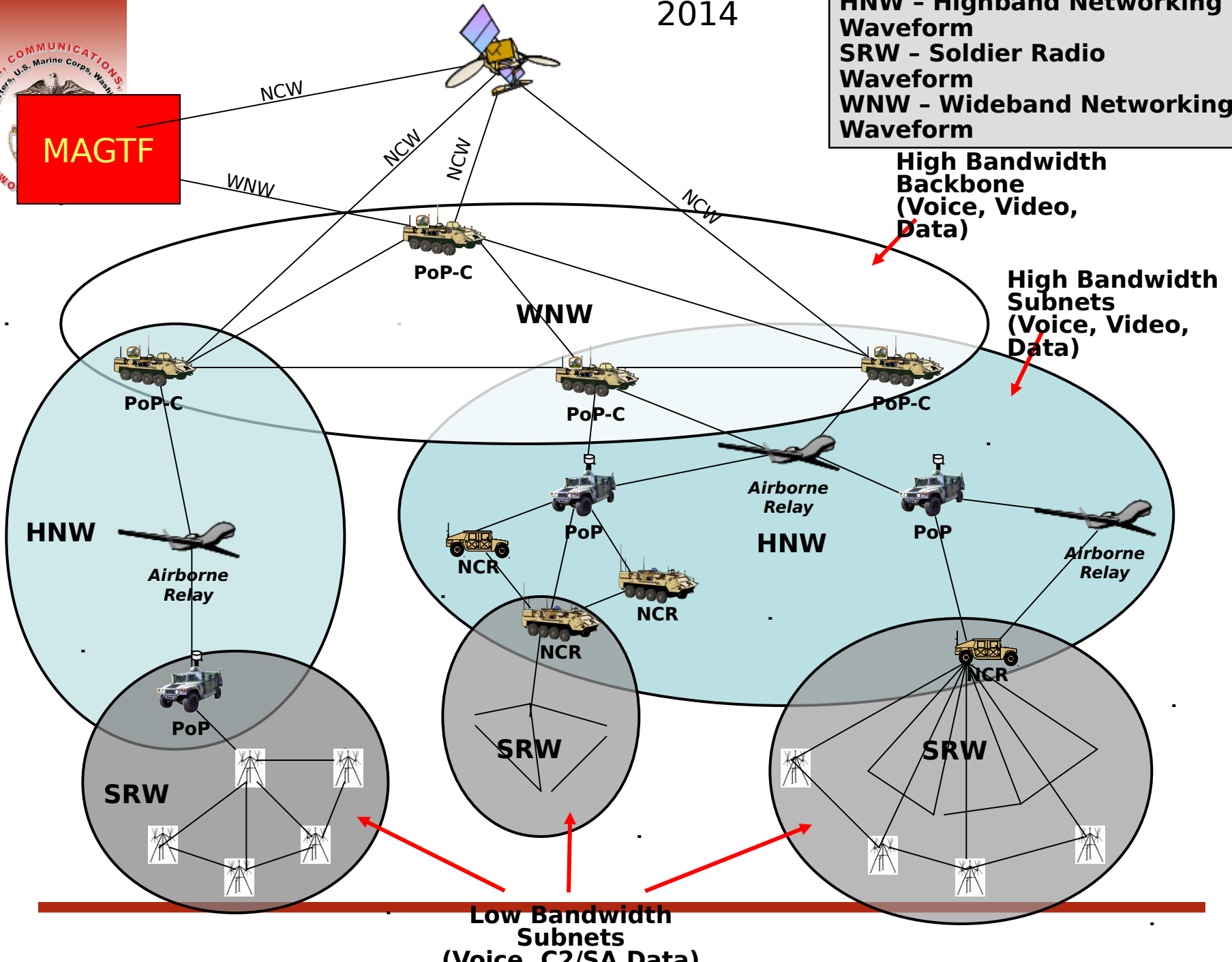


2014

**HNW - Highband Networking
Waveform**
**SRW - Soldier Radio
Waveform**
**WNW - Wideband Networking
Waveform**



MAGTF





Aerial Layer

- Connecting Marines
 - RF/Voice first, then networking
 - Mobile comms/C2
 - Extending the tactical network
 - Networked radios
 - Battlespace video/ISR
 - Enabling sensor-to-shooter communications
-



Excerpts from the Marine UAS Plan

Unmanned aircraft systems (UAS) enable Marines to increase the effectiveness of our air-ground team ... [and] will continue to widen and add depth to our aviation support by capitalizing on current and future technologies. **Future UAS will expand to provide support in other Marine Aviation functions beyond aerial reconnaissance.**

Concepts

Battalion level-units will use the smaller Tier I systems as an organic reconnaissance and surveillance capability. The VMU squadrons will employ the larger and more-complex Tier II and III systems via a common Ground Control Station (GCS) to provide task-organized support to various MAGTFs. Greater capability will be resident in the **Tier III system**, and it **will include such support as** targeting, strike, intelligence collection, electronic attack, **data networking, and communications relay.**

Capabilities

Command and control is currently being augmented through **a radio relay capability with our Shadow UAS.** The **development and addition of systems** such as CORPORAL **will increase access to command data networks.**